



*IFW*

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Post Office as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

Date:

Name:

Signature:

*7/15/05*  
Natacha Cordes

*Clifford Chance US LLP*

Docket No. 6175-010

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Jyoti Das et al.

Patent No: 6,898,560

Issue Date: May 24, 2005

For: MAINTAINING A COMPUTER-GENERATED DESIGN MODEL

Mail Stop Certificate of Corrections  
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**REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 CFR §1.322**

Sir:

In accordance with the provisions of 37 CFR §1.322 which implement 35 USC §254, the United States Patent and Trademark Office, **Applicant respectfully requests a Certificate of Correction and new printed Letters patent** in the above-identified patent to correct an error in the printed patent.

The error is listed below with reference to its occurrence in the application.

- Kirk Haller, Acton, MA (US) and Austin O'Malley, Acton, MA (US) should be added as inventors. Support for this could be found on page 2 of the Notice of Allowance dated December 23, 2004. A copy of Notice of Allowance is attached.

Although Applicant believes the error occurred in the U.S. Patent and Trademark Office, the Commissioner is hereby authorized to charge any fees to Deposit Account No. 50-0521.

Please see below for our new address.

Respectfully submitted,

Date:

*July 15, 2005*

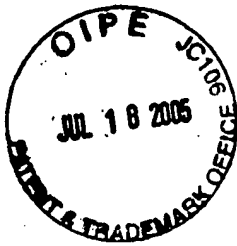
*James V. Mahon*  
James V. Mahon

Reg. No. 41,966

Clifford Chance US LLP  
31 West 52<sup>nd</sup> Street  
New York, NY 10019-6131  
212-878-8073- tel.

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**CERTIFICATE OF FACSIMILE TRANSMISSION**

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Date:

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Signature:

7/15/05  
Natalia Cordes  
Natalia Cordes  
Clifford Chance US LLP

Docket No. 6175-010

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**RECEIVED**

In re Application of: Jyoti Das et al.

JUL 25 2005

Patent No.: 6,898,560

Issue Date: May 24, 2005

Serial No.: 09/583,502

Filing Date: May 31, 2000

For: MAINTAINING A COMPUTER-GENERATED DESIGN MODEL

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Commissioner for Patents  
Attn: Office of Petitions  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION TO REQUEST EXPEDITED CERTIFICATE OF CORRECTION**

Sir:

This petition is being filed to request an Expedited Certificate of Correction for the above-identified patent. Applicants submit herewith a Petition for Correction of Inventorship under 37 CFR §1.324.

The Commissioner is hereby authorized to charge the requisite fee of \$130.00 as set forth in 37 C.F.R. §1.17(i), or any additional fees, or to credit any overpayments in connection with this Petition, to Deposit Account No. 50-0521. A duplicate copy of this Petition is enclosed.

Accordingly, it is respectfully requested that the U.S. Patent and Trademark Office grant this Petition.

Respectfully submitted,

Date:

July 15, 2005

James V. Mahon

Reg. No. 41,966

07/19/2005 EAREGAY1 00000065 500521 6898560

01 FC:1464

130.00 DA

NYB 1505900.1

Clifford Chance US LLP  
31 West 52<sup>nd</sup> Street  
New York, NY 10019-6131  
212-878-8073 – Tel.

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

PATENT NO : 6,898,560 B1

DATED : May 24, 2005

INVENTOR(S): Das et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Under Inventors (75)

Kirk Haller, Acton, MA (US) should be added.

Austin O'Malley, Acton, MA (US) should be added

MAILING ADDRESS OF SENDER:

James V. Mahon, Esq.  
Clifford Chance US LLP  
31 West 52<sup>nd</sup> Street  
New York, NY 10019-6131  
(212) 878-8073

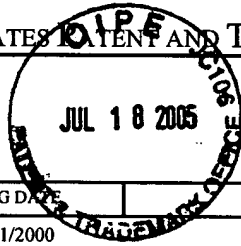
Patent No.: 6,898,560 B1

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,502	05/31/2000	Jyoti Das	6175-10	4242
27383	7590	12/23/2004	EXAMINER	
CLIFFORD CHANCE US LLP 31 WEST 52ND STREET NEW YORK, NY 10019-6131			THANGAVELU, KANDASAMY	
			ART UNIT	PAPER NUMBER
			2123	

DATE MAILED: 12/23/2004

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 645 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 645 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

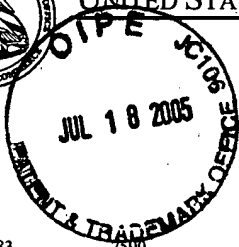
Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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## NOTICE OF ALLOWANCE AND FEE(S) DUE

AUG 16 2005

27383 1390 12/23/2004

CLIFFORD CHANCE US LLP  
31 WEST 52ND STREET  
NEW YORK, NY 10019-6131

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JUL 25 2005

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OFFICE OF PETITIONS  
EXAMINER

THANGAVELU, KANDASAMY

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 12/23/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,502	05/31/2000	Jyoti Das	6175-10	4242

TITLE OF INVENTION: MAINTAINING A COMPUTER-GENERATED DESIGN MODEL

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	03/23/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

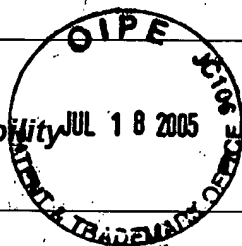
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# Notice of Allowability



Application No.

09/583,502

Examiner

Kandasamy Thangavelu

Applicant(s)

DAS, JYOTI

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

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1. ☒ This communication is responsive to August 4, 2004.
2. ☒ The allowed claim(s) is/are 1-36.
3. ☒ The drawings filed on 31 May 2000 and 06 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

KEVIN J. KAY  
SUPERVISORY  
PATENT EXAMINER

## **DETAILED ACTION**

### ***Introduction***

1. This communication is in response to the Applicants' communications dated August 4, 2004. Claims 1-36 of the application are pending.

### ***Petition to correct Inventorship granted***

2. The Petition to correct Inventorship filed on November 6, 2003 under 37 CFR 1.48 (a) has been fully considered in view of the consent of the assignee regarding petition to correct inventorship file by MR. Holly Stratford on behalf of Solidworks on February 5, 2004. The petition to correct inventorship has been granted by the Primary Examiner as per MPEP 1002.02 (e).

### ***Drawings***

3. The drawings submitted on May 31, 2000 and November 6, 2003 are accepted.

### ***Examiner's Amendment***



Art Unit: 2123

4. Authorization for this examiner's amendment was given in a telephone interview with Mr. James Mahon on December 6, 2004.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

5. The application has been amended as follows:

In the amended Claim 13, Lines 1-2, change:

“A computer program residing on a computer-readable medium, comprising instructions for causing a computer to”

to

--A computer program residing on a computer-readable medium, comprising instructions which when executed on a computer causing the computer to--.

In amended Claims 14 to 17, Line 1, change:

“The program apparatus of claim”

to

-- The computer program of claim --.

In amended Claim 18, Line 1, change:

“The program apparatus of claims 17”

to

-- The computer program of claim 17 --.

In amended Claims 19 to 24, Line 1, change:

“The program apparatus of claim”

to

-- The computer program of claim --.

### ***Reasons for Allowance***

6. Claims 1-36 of the application are allowed over prior art of record.

7. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

The closest prior art of record shows:

(1) a design information management system has 3-dimensional model data which includes constitution information indicating components of the device and the location information stored in a database; the 3-dimensional model data prepared during the design stage are stored in bulk servers; a design access device used during the design or manufacturing stages obtains the location data for each component of the device from the servers and based on the location data extracts the model data from the database of the servers; the design information access device uses the attribute information indicating if the component is a common component to notify all users when the design information is updated (Yasue, U.S. Patent 6,289,345);

(2) a layout verification system for verification of IC devices by efficiently performing design rule checks; a hierarchical tree describes device-level instances of the cells, layout geometry and child cells that describe other geometry; the hierarchical tree is derived from an attribute file that is generated from the high level description; the hierarchical tree establishes the parent-child relationship between the cells together with information regarding the location and orientation of the cells; design rule verification is performed to identify if the IC contains improper geometry or violates a design constraint (Ho et al., U.S. Patent 6,011,911);

(3) three-dimensional model creation apparatus and method for accurate creation of the model through assembly of part models; the model creation apparatus comprises a part model creation unit having junction reference data for the junction with other part models; and an

Art Unit: 2123

assembly processing unit for selecting at least two part models for arrangement in a work coordination space to junction the part models, to thereby assemble the three-dimensional object model; the creation of parts and the assembly of the arts are separated from each other; (Mukouchi et al., U.S. Patent 6,104,403).

8.1 Applicant's first set of claims consists of Claims 1-12.

Independent Claim 1 is directed to a computer-implemented method for restructuring a design model generated by a computer aided design system. The claim identifies the uniquely distinct features of:

“receiving at a computer a command to restructure the design model, the design model comprising a first hierarchical data structure interrelating a plurality of components and the command to restructure comprising a command to change a hierarchical relationship of a first subset of the plurality of components with respect to other ones of the plurality of components; in accordance with the command to restructure, generating a new hierarchical data structure comprising a new hierarchical relationship between the plurality of model components; determining other relationships between components in the first hierarchical data structure to change as a result of the command to restructure; and dynamically updating the other relationships to preserve the other relationships subsequent to the generation of the new hierarchical relationship”.

The closest prior art fails to teach or fairly suggest receiving at a computer a command to restructure the design model, the design model comprising a first hierarchical data structure

Art Unit: 2123

interrelating a plurality of components and the command to restructure comprising a command to change a hierarchical relationship of a first subset of the plurality of components with respect to other ones of the plurality of components; in accordance with the command to restructure, generating a new hierarchical data structure comprising a new hierarchical relationship between the plurality of model components; determining other relationships between components in the first hierarchical data structure to change as a result of the command to restructure; and dynamically updating the other relationships to preserve the other relationships subsequent to the generation of the new hierarchical relationship. Therefore, Claims 1-12 are deemed novel and allowable.

8.2 Applicant's second set of claims consists of Claims 13-24.

Independent Claim 13 is directed to a computer program residing on a computer-readable medium, comprising instructions which when executed on a computer causing the computer to restructure a design model generated by a computer aided design system. The claim identifies the uniquely distinct features of:

“receive a command to restructure a design model generated by a computer aided design system, the design model comprising a first hierarchical data structure interrelating a plurality of components and the command to restructure comprising a command to change a hierarchical relationship of a first subset of the plurality of components with respect to other ones of the plurality of components;

in accordance with the command to restructure, generate a new hierarchical data structure comprising a new hierarchical relationship between the plurality of components;

determine other relationships between the plurality of components in the first hierarchical data structure to change as a result of the command to restructure; and  
dynamically update the other relationships to preserve the other relationships subsequent to generation of the new hierarchical data structure”.

The closest prior art fails to teach or fairly suggest receive a command to restructure a design model generated by a computer aided design system, the design model comprising a first hierarchical data structure interrelating a plurality of components and the command to restructure comprising a command to change a hierarchical relationship of a first subset of the plurality of components with respect to other ones of the plurality of components; in accordance with the command to restructure, generate a new hierarchical data structure comprising a new hierarchical relationship between the plurality of components; determine other relationships between the plurality of components in the first hierarchical data structure to change as a result of the command to restructure; and dynamically update the other relationships to preserve the other relationships subsequent to generation of the new hierarchical data structure. Therefore, Claims 13-24 are deemed novel and allowable.

8.3 Applicant's third set of claims consists of Claims 25-36.

Independent Claim 25 is directed to a computer aided design system comprising a database comprising a stored design model and a processor to restructure a design model generated by a computer aided design system. The claim identifies the uniquely distinct features of:

Art Unit: 2123

“receive from the input device a command to restructure the design model;  
in response to the command to restructure, executing instructions to generate a new  
hierarchical data structure comprising a new hierarchical relationship by changing a hierarchical  
relationship of a first subset of the plurality of components with respect to other ones of the  
plurality of components;  
determine other relationships between components in the first hierarchical data structure  
to change as a result of the command to restructure; and  
dynamically update the other relationships to preserve the other relationships subsequent  
to generation of the new hierarchical data structure”.

The closest prior art fails to teach or fairly suggest receive from the input device a command to restructure the design model; in response to the command to restructure, executing instructions to generate a new hierarchical data structure comprising a new hierarchical relationship by changing a hierarchical relationship of a first subset of the plurality of components with respect to other ones of the plurality of components; determine other relationships between components in the first hierarchical data structure to change as a result of the command to restructure; and dynamically update the other relationships to preserve the other relationships subsequent to generation of the new hierarchical data structure. Therefore, Claims 25-36 are deemed novel and allowable.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

Art Unit: 2123

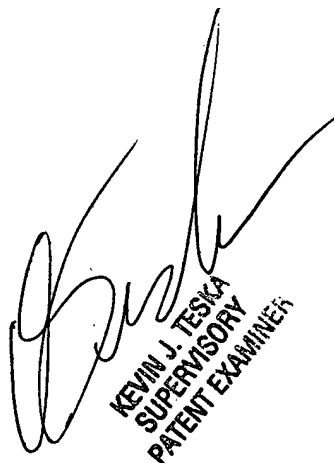
fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 571-272-3717. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska, can be reached on 571-272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

K. Thangavelu  
Art Unit 2123  
December 6, 2004



KEVIN J. TESKA  
SUPERVISORY  
PATENT EXAMINER